

BEFORE THE FEDERAL COMMUNICATIONS COMMISSION

In re Broadband Over Power Line Systems)
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) Proceeding No. 03-104
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COMMENT

This comment is submitted in reply to the Commission’s Notice of Inquiry (“NOI”) regarding Carrier Current Systems, including Broadband over Power Line Systems (“BPL”) adopted on April 23, 2003.

The Commission’s authorization of the instant BPL proposal will result in disruption of authorized public safety radio services and the Commission’s Amateur Radio service. BPL interference would render useless, for all practical purposes, the high frequency Amateur Radio equipment owned by hundreds of thousands of Amateur Radio operators in the United States. Such a disruption would result in the unconstitutional taking of personal property. If such disruption occurs, utility companies and Internet service providers should be held responsible for the interference should be required to fully compensate Amateur Radio operators, including attorney fees, court costs and interest.

BPL Interference

The nation’s power lines, though designed to be transmission lines at 60 Hertz (“Hz”), are typically installed on supporting structures ranging from power poles of

40-60 feet or higher, and often radiate far outside their intended band causing harmful interference to other essential communications services regulated by the Commission. The Commission's enforcement arm has, for many years, dealt with power line interference complaints and compliance issues arising from power line interference to a broad range of regulated services, including public safety and Amateur Radio services. Thus, based solely on many such complaints received by the Commission it is well established that power line interference is a recurring, harmful problem. BPL is also likely to interfere with the functioning of tens of millions of electronic consumer products (e.g., broadcast radio and television receivers, VCR and DVD players, etc.), rendering those products inoperative or reducing their functioning to below the level for which they were designed or are needed by those who own them.

BPL Interference to Existing Services

Power line interference affects the spectrum below 30 MHz (HF) where existing authorized operations include fixed, land mobile, aeronautical mobile, maritime mobile, radiolocation, broadcast radio, Amateur Radio terrestrial and satellite, and radio astronomy. Power line interference also affects the spectrum from 30 to 300 MHz where existing authorized operations include fixed land mobile, aeronautical mobile, maritime mobile and mobile satellite, radio astronomy, Amateur Radio terrestrial and satellite, broadcast TV and radio. This spectrum is also used for public safety and law enforcement purposes, and for federal government aeronautical radio navigation, radio navigation satellite and radiolocation purposes.

BPL interference will disrupt existing authorized services. Disruptions will seriously affect *law enforcement*, *public safety*, and *Amateur Radio* communications, existing regulated services that have been the backbone of the nation's disaster and emergency response capabilities for decades. The ability of these services to operate without the harmful interference caused by power line radiation is essential in a post-9/11 era in which our nation is the subject of recurring, valid threats from terrorists. Each of these authorized services must be protected from harmful interference created by BPL if the Commission-endorsed mission of each service is to be fulfilled responding to emergencies of any kind.

The Commission's Enforcement Bureau is well acquainted with the issue of power line radiation interference to the Amateur Radio service and takes the issue seriously. Under existing well-grounded regulations, such interference is prohibited. See 47 C.F.R. §§15.5, 15.13, 15.15 (2003). BPL is known to cause interference with Amateur Radio HF communications practiced daily by several hundred thousand Amateur Radio operators in the United States¹ and during times of emergency in service to this nation.

Complaints received by the Commission concerning interference to consumer electronics products are legion. Deployment of BPL would likely and result in countless instances of interference to consumer electronic goods used in households (e.g., stereo systems, televisions, video cassette and DVD players) which, as the Commission well knows, are insufficiently shielded during the manufacturing process against outside interference.

Commission Investigation

The Commission should bar deployment of BPL under existing rules and forego changes in other Part 15 rules to further authorize BPL unless scientifically sound research commissioned by the Commission (not research offered only by commercial interests that support BPL and their paid experts) demonstrates that BPL will not interfere with existing services.

The Commission should require BPL providers to immediately cease operation if the interference cannot be eliminated after ten (10) days until such time that the interference is eliminated. Further, the Commission should expressly authorize private rights of action against power line owners and BPL providers for violations, and include penalties against BPL providers and power line owners for failure to address interference complaints and provide for the award of treble damages, attorney fees and court costs where a BPL provider knew or should have known that it has interfered with another service or fails to cease transmission of an interfering BPL signal after 10 days.

On information and belief, Japan abandoned its bid on BPL, in part, because of the interference issue, and a city in the Netherlands received a high number of interference complaints during a BPL-type experiment. The Commission should closely study current and prior attempts to evaluate or implement BPL services.

Taking of Property

¹ BPL interference in the border areas of the United States may also likely cause interference to existing

Amateur Radio operators use their own funds to purchase or build their own radio equipment, pay for electric power to operate their equipment, and undergo additional communications training and provide public service communications at their own expense as service to their communities and this nation. The personal investment in equipping even a modest Amateur Radio station can be substantial. The Commission has recognized the value of Amateur Radio as an emergency communications resource and has promised to protect licensed users of the Amateur Radio spectrum.

Authorization of BPL would present a “taking” issue should BPL directly interfere with or substantially disturb Amateur Radio operators’ use and enjoyment of their personal radio equipment. *See Brothers v. United States*, 594 F.2d 740, 741 (9th Cir. 1979). To constitute a taking in the constitutional context, it is not essential that there be a physical seizure or appropriation of property, and any actual or material interference with property rights constitutes a taking. *Aris Gloves, Inc. v. United States*, 420 F.2d 1386, 1391 (Ct. Cl. 1970).

Utility companies and Internet service providers (“ISPs”) should be held accountable for interference to Amateur Radio communications caused by BPL. Amateur Radio operators should be fully compensated for the loss of use of their equipment (many Amateur Radio operators have invested thousands of dollars in their stations, antennas, and towers), including attorney fees, court costs and interest for Amateur Radio operators who are forced to resort to litigation. Treble damages should be available to Amateur Radio operators in instances where utilities or ISPs engage in bad faith in addressing a taking claims.

regulated services in neighboring countries, e.g., Canada and Mexico.

Conclusion

The Commission should not move forward with BPL without carefully and thoroughly studying the potential problems BPL will cause, based on independent, non-biased scientific research grounded in good engineering practice. BPL presents a great potential for harmful interference to existing authorized public service communications, and a constitutional taking issue should BPL interference deprive Amateur Radio operators of the enjoyment of their personal radio equipment.

Respectfully submitted,

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